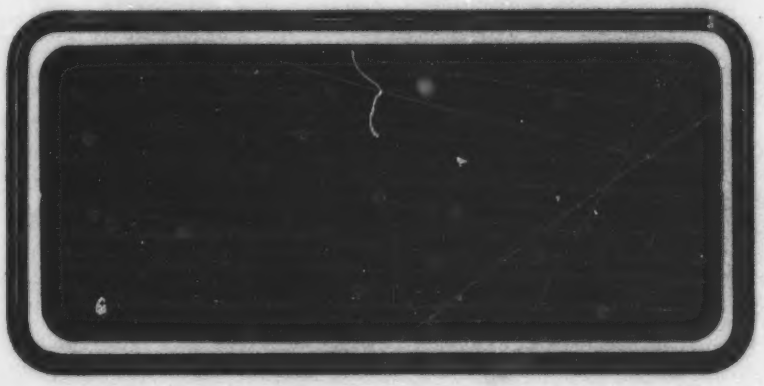
Canada Alberta

FOREST RESOURCE DEVELOPMENT AGREEMENT
ENTENTE SUR LA MISE EN VALEUR DES RESSOURCES FORESTIERES



Canada Alberta

The Canada–Alberta Forest Resource Development Agreement is a subsidiary agreement of the Canada–Alberta Economic and Regional Development Agreement, which provides coordination and cooperation between the governments of Alberta and Canada in areas of Alberta's economic development.

The Canada–Alberta Forest Resource Development Agreement is funded equally by the governments of Canada and Alberta, from April 1, 1984, to March 31, 1989.

Its primary objectives are to ensure the long-term availability of timber supplies; to optimize timber uses; and to contribute to the growth and diversification of Alberta's economy.

The Agreement comprises three programs: Reforestation; Applied research, technology transfer and opportunity identification; and Public information, evaluation and administration. These programs are managed by a joint Directorate and are implemented by Forestry Canada and the Alberta Forest Service.

L'Entente Canada–Alberta sur la mise en valeur des ressources forestières est auxiliaire à l'Entente Canada–Alberta sur le développement économique et régional, qui vise à assurer la coordination et la coopération des deux gouvernements relativement au développement économique de l'Alberta.

L'Entente Canada–Alberta sur la mise en valeur des ressources forestières est financée à parts égales par les gouvernements du Canada et de l'Alberta, et a cours du 1er avril 1984 au 31 mars 1989.

Ses objectifs principaux sont assurer la disponibilité à long terme de réserves de bois; optimiser leur utilisation; et contribuer à la croissance et la diversification de l'économie de la province.

L'Entente comprend trois programmes: Reboisement; Recherche appliquée, transferts de connaissances techniques et relevé des occasions; et Information, évaluation et administration. Ces programmes sont gérés par un Bureau de direction conjoint, et mis en oeuvre par Forêts Canada et le Service forestier de l'Alberta.

For more information, please call or write:

Pour de plus amples informations, veuillez vous adresser à:

Forestry Canada
Northern Forestry Centre
5320 – 122 Street
Edmonton, Alberta
T6H 3S5
Telephone: (403) 435-7210

OR/OU Alberta Department of
Forestry, Lands & Wildlife
9915 – 108 Street
Edmonton, Alberta
T5K 2C9
Telephone: (403) 427-3583

APPLICATION OF LASER TECHNOLOGY FOR THE MANUFACTURE OF CHILDREN'S FURNITURE USING ALBERTA FOREST PRODUCTS PHASE II MARKET SURVEY AND ANALYSIS

TEK Woodworks[1]

1989

Tamrat Tekle

This is a joint publication of Forestry Canada and the Alberta Forest Service pursuant to the Canada-Alberta Forest Resource Development Agreement

[1]9994 29th Avenue,
Edmonton, Alberta
T6K 1A2

Project # 2809 - 78

DISCLAIMER

The study on which this report is based was funded in part under the Canada/Alberta Forest Resource Development Agreement.

The views, conclusions and recommendations are those of the authors. The exclusion of certain manufactured products does not necessarily imply disapproval nor does the mention of other products necessarily imply endorsement by Forestry Canada or the Alberta Forest Service.

(c) Minister of Supply and Services Canada 1989
Catalogue No.: FO 42-91/80-1989E
ISBN: 0-662-17382-1

Additional copies for this publication are available at no charge from:

Forestry Canada
Regional Development
5320 - 122nd Street
Edmonton, Alberta
T6H 3S5
Telephone: (403) 435-7210

or

Forestry, Lands and Wildlife
Forest Industry Development Division
108th Street Building
#930, 9942 - 108th Street
Edmonton, Alberta
T5K 2J5
Telephone: (403) 422-7011

92-03266/

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	iv
1.0 INTRODUCTION	1
1.1 BACKGROUND	1
1.2 OBJECTIVES	1
2.0 DEVELOPMENT OF MARKETING PACKAGE	2
2.1 PRODUCT CONTAINERS	2
2.2 MARKETING BROCHURE	2
3.0 MARKET SURVEY AND ANALYSIS	4
3.1 AN OVERVIEW OF THE FURNITURE & FIXTURE INDUSTRY	4
3.1.1 THE CANADIAN MARKET	4
3.1.2 THE ALBERTA MARKET	4
3.1.3 INTERNATIONAL MARKET	5
3.1.3.1 The U.S.A. Market	5
3.1.3.2 The Japanese Market	5
3.2 PRODUCTS OF TEK WOODWORKS	6
3.2.1 DESCRIPTION	6
3.2.2 PRICE	7
3.2.3 TECHNOLOGY	8
3.2.4 STRENGTH AND WEAKNESSES	9
3.3 THE TARGET MARKET SEGMENT	9
3.3.1 CONSUMERS	9
3.3.2 DAY CARE CENTRES	10
3.3.3 INSTITUTIONAL CUSTOMERS	10
3.3.4 INTERNATIONAL MARKET	11
3.3.4.1 The U.S.A. Market	11
3.3 4.2 The Japanese Market	11
3.4 ANALYSIS OF THE COMPETITION	12
3.4.1 STRENGTH AND LOCATION OF THE COMPETITION	12
3.4.2 PRODUCT QUALITY	12
3.4.3 COMPARATIVE PRICES	13
3.5 DISTRIBUTION CHANNELS AND CHARACTERISTICS	13
3.5.1 RETAIL OUTLETS	13
3.5.2 WHOLESALE	15
3.5.3 OTHER	15
3.5.4 PHYSICAL DISTRBUTION	

3.6 STRATEGY FOR MARKET PENETRATION 16
3.6.1 SHORT TERM 17
3.6.2 MEDIUM TERM 17
3.6.3 LONG TERM 17

3.7 ADVERTIZING AND PROMOTION METHODS 17
3.7.1 ADVERTIZING 17
3.7.2 PROMOTION 18
3.7.3 PACKAGING 18

3.8 THE BUSINESS PLAN 19
3.8.1 SUMMARY 19

4.0 BENEFITS TO THE PROVINCE OF ALBERTA 20

4.1 RESOURCE UTILIZATION 20

4.2 JOB CREATION 20

4.3 IMPORT REPLACEMENT 21

4.4 EXPORT POTENTIAL 21

5.0 CONCLUSION AND RECOMMENDATIONS 22

LIST OF TABLES

TABLE 1: Projected Market for Wooden Furniture in Alberta 4
TABLE 2: Product Mix of Annual Production 7
TABLE 3: Product Costs and Retail Prices 7
TABLE 4: Suggested Retail Prices 8
TABLE 5: Comparative Prices for a Three Piece Set 13

LIST OF FIGURES

FIGURE 1: Typical Product Container 2
FIGURE 2: Typical Product Packaging 3
FIGURE 3: Text on Marketing Brochure 3

APPENDIX 1: MARKETING BROCHURE
APPENDIX 2: FAMILY EXPENDITURE ON HOUSEHOLD FURNITURE IN CANADA
APPENDIX 3: FAMILY EXPENDITURE ON CHILDREN'S FURNITURE IN CANADA
APPENDIX 4: PROJECTED DAY CARE SPACES IN CANADA
APPENDIX 5: PICTURES OF PONY-TEK PRODUCTS
APPENDIX 6: CHILDREN'S FURNITURE MANUFACTURERS IN CANADA
APPENDIX 7: DISTRIBUTORS OF TOYS AND DAYCARE EQUIPMENT IN ALBERTA

EXECUTIVE SUMMARY

TEK Woodworks undertook a project to develop a marketing package, conduct a market survey and analysis, and develop a business plan for the establishment of a furniture manufacturing plant which will use laser technology to process Alberta forest products.

In 1986, the Canadian market for household furniture was over $ 3 billion with the Alberta market being over $ 331 million for the same period.
Thre target markets were identified in this market study: 1) family units with children under five years of age and with a family income of $ 20,000 or more per annum, 2) institutional customers, and 3) export markets particularly the U.S.A. and Japan.

Based on statistical data and extrapolations, it is estimated that Canadian consumers spent $88.5 million on children's furniture in 1986. We estimate that during the same period the Alberta market for children's furniture was over $7.3 million. Most of this is imported, with very little being sourced from within the province. These amounts are likely to increase by more than 2%, within the next few years, consistent with increase in family units and disposable income.

In 1987, day care centre spaces were 216,685 in Canada, and 37,494 in Alberta. It is projected that these will increase by 8.1% and 9.4% respectively within the next two years.

In 1986, Canadian exports of household furniture to the United States amounted to $215 million. There has not been any significant effort made towards exporting such products to Japan in the past. Based on availble information and observations there is significant potential in these markets for Albertan furniture manufacturers if pursued quotiously.

In its first year of operation TEK Woodworks intends to manufacture 11,000 assorted units and achieve gross sales of over $300,000. The firm expects to create over fifteen permanent jobs on full establisment.

The direct and indirect benefits of the proposed venture in terms of import replacement, export potential, job creation and resource utilization far outway the relatively high initial investment required. The major problem that hinders the development of this venture is lack of adequate investment capital.

Our recommendations to the Government of Alberta include assistance to the manufacturer in medium term and long term financing.

1.0 INTRODUCTION

The Alberta market for household furniture is estimated at over $ 300 million, 49% of which is made of wood. Wooden children's furniture accounts for over $8 million and almost all of it is imported in to the province except with a very small amount being sourced from here.

Despite the abundance of the necessary raw material, the secondary forest products industry in Alberta has not been strong. This has caused the exodus of primary forest products out of the province for more up grading elsewhere. The furniture industry is a prime example as it consists of a large number of small manufacturers with little or no production line capabilities, which makes it difficult to compete with imported furniture products from other regions.

In the past most of the focus has been on the primary forest products manufacturing sector which now appears to be very well developed. Other qualy important deterring factors have been lack of product specification, information on modern processing technologies, the perceived small size of the provincial market, and the relatively high transportation costs to reach export markets from Alberta.

1.1 BACKGROUND

Since March 1987 TEK Woodworks has been investigating the possibilty of using laser technology for the manufacture of wooden furniture from Alberta forest products. Following a successful technological and economic feasibilty study various products have been developed and their acceptability in the market place tested on a preliminary basis under the trade name PONY-TEK. It was found that these products were well accepted. In order to establish a successful manufacturing operation there was a need to properly identify and characterize the potential that existed and also pursue the realization of commercial sales.

This project was proposed by TEK Woodworks in order to lay the foundation for the establishment of a furniture manufacturing operation which utilizes laser terchnology to process Alberta forest products.

Funding for the project was obtained from the Canada-Alberta Forest Resources Development Agreement and TEK Woodworks. The description, results and recommendations are discussed in the sections that follow.

1.2 OBJECTIVES

The specific objectives of the project were:

1) To develop a marketing package that consists of product containers and a promotional brochure.

2) To undertake a market survey and analysis of both the domestic and export (U.S.A. and Japan) markets.

3) To develop a market strategy and a business plan.

2.0 DE''ELOPMENT OF A MARKETING PACKAGE

In developing the concept for product containers and a marketing brochure, very carefull attention was given to maintaining congruency with product promotion and image as detailed in the market analysis (section 3.7) as well as safety.

2.1 PRODUCT CONTAINERS

Four different sizes of boxes have been developed for five of the products that are currently ready for market and 100 samples of each has been manufactured using 200 lb bleached cardboard. The same box labels are used on all of the boxes. These box labels have been carefully designed to depict all of TEK Woodworks products along with the company logo. Under each of the product pictures is a blank box left to mark the particular product contained in that box. In this way it is hoped to achieve some advertizing for the range of products manufactured by the company while the boxes serve their intended purpose of safe packaging. Figures 1 and 2 show the picture of a typical product container.

Figure 1: TYPICAL PRODUCT CONTAINER

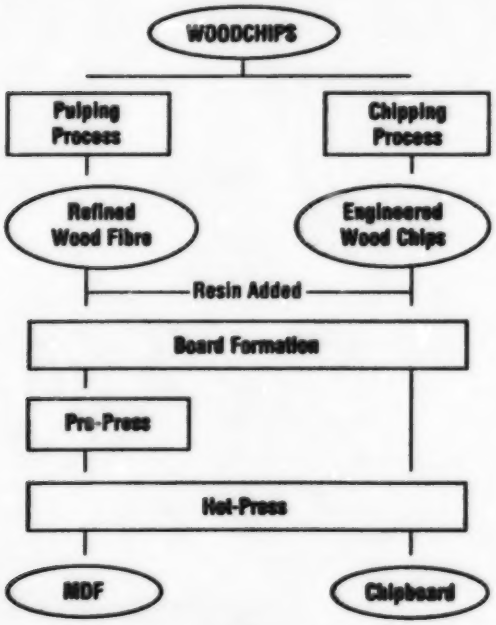
Figure 2: TYPICAL PRODUCT PACKAGING

2.2 MARKETING BROCHURE

A full colour marketing brochure depicting the range of products manufactured by TEK Woodworks has been developed and printed. A rather new approach has been taken in designing the brochure. Besides product specifications, which has been written at the back of the brochure, a description "ABOUT MDF" and an open "INVITATION FOR COMMENTS" from consumers has been included. This additional information is intended to highlight the virtues of MDF over chipboard, creat an image for the company which is consistent with its policy, and also solicit the support and patronage of consumers. The two texts are shown in Figure 3 below, and Appendix 1 contains the complete brochure.

ABOUT MEDIUM-DENSITY FIBREBOARD (MDF)

Medium Density Fibreboard (MDF) is a wood fibre product made by compressing **woodfibres** with resin. Unlike chipboard, which is made by compressing **woodchips (particles)** with resin, MDF is much denser and more uniform throughout the board thickness.



SCHEMATIC REPRESENTATION OF HOW MDF AND CHIPBOARD ARE MADE

As shown in the diagram MDF is made from refined wood fibres obtained from a pulping process. The result of mixing these fibres with resin and compressing them in a hot-press is a dense wood material which is free from air or resin pockets as may be observed in chipboard. This makes MDF stronger than chipboard with a much smoother surface.

The surface of MDF is even stronger than some solid woods and can withstand much higher indentation forces. It does not leave dangerous splinters like solid wood when subjected to breaking forces due to use or abuse. These charactaristic make MDF an ideal wood material for making children's furniture.

INVITATION FOR COMMENTS

In recognition of the dependance of our growth on your satisfaction, we hereby invite you to send us your comments about how satisfied you are with our products in respect to quality, appearance, price, uniqueness, sturdiness, etc. We have taken all considerations to make sure that our customers are completely satisfied with our products. However, since the products offered here are new, we believe your comments are the only way for us to guarantee your satisfaction.

TEK WOODWORKS is an Edmonton based company started by a Wood Scientist with a deliberate intention of incorporating **Laser Technology** in furniture manufacturing as a way of increasing operating efficiencies and raw material utilization to lower costs of production.

After two years of technical and economic feasibility studies and design development since March 1987, we are proud to offer you with **our first ever laser-cut children's furniture anywhere in the world.** Through continued design and development using the latest in laser technology, we are expanding our product line to include other children's furniture, toys and teaching aids.

In our efforts to provide you with quality products incorporating creative ideas at reasonable prices, your input will be given the utmost consideration. We welcome any written comments, suggestions, critisism or appreciation you may have about our current products or future developments.

Please send your comments to:

General Manager
c/o TEK WOODWORKS
9994 - 29th Avenue
Edmonton, Alberta, Canada T6N 1A2
Tel.: (403) 462-1621

Figure 3: TEXT ON THE MARKETING BROCHURE

3.0 MARKET SURVEY AND ANALYSIS

This market analysis was conducted using information obtained from: 1) an assessment of marketing efforts of the company past, present, and projected; 2) a literature research of libraries, goverment and private sources; 3) interviews with customers and experts; 4) surveys within the industry.

3.1 AN OVERVIEW OF THE FURNITURE & FIXTURE INDUSTRY

3.1.1 THE CANADIAN MARKET

The furniture and fixture industry has been experiencing tremendous growth in the past three years. In 1985 manufacturers' sales of furniture were $ 1.57 billion in Canada. This went up to $ 1.75 billion in 1986, an increase of 11%. According to the Canadian Furniture Manufacturers Association, the factors attributable to this growth were: 1) higher exports; 2) a stronger economy; and 3) an increased effort in promoting furniture sales.

Canadian retail consumers spent $ 3.44 billion on furniture and fixtures in 1986. This is expected to grow by $ 1.8 billion in 1988. The market for wooden household furniture was $ 1.67 billion. $ 88 million (5.3%) was spent on children's furniture. See appendix 2.

The wooden furniture industry in Canada is made up of mainly small independent manufacturers none of which exercises a monopoly in the market place.

3.1.2 THE ALBERTA MARKET

In 1986 expenditure on household furniture in Alberta was over $318 million, and wooden furniture accounted for $ 155 million (49%). Alberta consumers spent $ 7.3 million on wooden children's furniture during the same period. According to the *Alberta Statistical Review* for the first quarter of 1988, retail trade in household furniture stores in Alberta grew from $ 97.3 million for the same period in 1986 to $ 108.5 million in 1987, an 11% growth. This amount is expected to increase 3.6 % annually over the next two to three years. Historical records of family expenditures indicate that about 49% of household furniture is made up of wood, 5% of which is attributed to wooden children's furniture (Appendix 2). From the above statistics, the market for wooden children's furnitue has been projected in Table 1.

TABLE 1: PROJECTED MARKET FOR WOODEN FURNITURE IN ALBERTA
($ Million)

RETAIL TRADE	1988	1989	1990	1991
Household Furniture	341.3	353.6	366.3	379.5
Wooden Furniture	167.2	173.3	179.5	186.0
Children's Furniture	8.4	8.7	9.0	9.3

Based on these figures, there already is a significant demand for children's furniture in Alberta, and almost all of it currently imported from overseas and from other provinces. If these trends continue there will be ample business opportunity; however, it would be prudent to monitor these parameters and adjust marketing efforts accordingly.

3.1.3 INTERNATIONAL MARKET

3.1.3.1 The U.S.A. Market

United States exports of household furniture increased from $ 79 million to $ 182 million during the first half of the 1980's, a total increase of 130% over a five year period. During the same period, imports of furniture increased by 148% from $ 303 million to $ 750 million. Tradtionally Canada has been the leading exporter of furniture to the United States and in 1986, Canada exported $ 215 million worth of household furniture to its neighbour, a 23% increase in Canadin over the previous year. However, in recent years, Taiwan has become the leading exporter of household furniture to the United States. Although Canada's export may have increased, its market share for similar products imported to the United States decreased by 17% in 1986 over the previous year.

The Free Trade Agreement(FTA) will remove a 15% tariff on most imports of household furniture over the next five years. Canadian manufacturers already have a 20% higher cost than their counterparts in the United States. Their previous success had been the high end of the market. The removal of tariff under the FTA may make it easier for Canadian manufacturers to access this large market for high quality expensive furniture as well as less expensive furniture of lower quality. It should be recognized, however, that the big American furniture manufacturers will also enjoy the same effects in accessing the Canadian market. North Carolina, in particular, has attracted the largest concentration of furniture manufacturers in the world, luring them with lower wages, better climate, and lower hardwood costs. With the FTA in place, they are expected to increase their furniture sales to Canada. While this may have negative impacts on the relatively small sized Canadian manufacturers cattering the low end of the market, a high quality Canadian product could take advantage of the 900% increase in market size not subjected to tariffs.

Despite the above mentioned adverse effects of the Free Trade Agreement(FTA) on the Canadian furniture industry as a whole, there is optimism among Canadian manufactures that furniture sales to the United States would increase in the next few years. Responding to a 1987 survey of the Eastern Canadian Manufacturers' Association, 67% of furniture executives stated that export sales would increase. Others suggest that this may be the case for companies manufacturing very high quality furniture, and also if the Canadian furniture industry undergoes massive modernization and upgrading. Whatever the case, the actual effects of the FTA remains to be seen.

3.1.3.2 The Japanese Market

The Japanese market has been noted as being overprotectionist. To this end, Multilateral Trade Negotiations were concluded during 1979 by the world's leading industrialized nations, aimed at promoting freer trade between countries. Canada is one of the signatories of this agreement which became effective on January 1980. Most of the tariff barriers which prohibit countries from entering the Japanese market were to be reduced over an eight year period. The tariff reduction by countries involved was to be between 41 and 45 %.

Wooden furniture imports by Japan rose from $ 118,000 U.S. in 1983 to $ 129,000 U.S. in 1984, an increase of 9.3%. This increase indicates opening up of the Japanese market for wooden furniture. However, Canada has done very little in terms of exports of wooden furniture to Japan. The leading exporter of wooden furniture to Japan is Taiwan, which in 1984 accounted for 29.5% while the United States accounted for 7.6% during the same period.

3.2 PRODUCTS OF TEK WOODWORKS

TEK Woodworks plans to manufacture children's furniture using raw materials manufactured exclusively from Alberta forest resources.

While the primary raw material input will be Medium Density Fibreboard (MDF), other indigenous woods such as Lodgepole Pine and Poplar will ultimately be incorporated along with demand. Samples of products have been manufactured using the various Alberta forest products including Oriented Strandboard (OSB). Currently MDF is preferred as the primary raw material, because of its smooth surface, resitance to damage and appearance.

3.2.1 DESCRIPTION

Children's furniture currently manufactured by TEK Woodworks is being marketed under the trade name PONY-TEK lines of children's furniture. These products include:

EASY CHAIR/PLAY CHAIR
PIGGY CHAIR
TEDDY CHAIR
ROCKING CHAIR
TREE PIECE SET

Please refer to Appendix 5 for pictures of products.

These products are designed for children under five years of age. The uniqueness of these products is that they are intentionally designed for children and they are not miniaturized adult furniture as is currently found in the market place. Further, the characteristic black edges on these and other PONY-TEK products are uniquely attractive features resulting from the natural burn of the laser beam. The chairs can be fitted with a standard double-sided interchangeable and washable PONY-TEK cushion. This cushion, which is an optional feature, is an other unique approach to the design of furniture for children.

Other products include promotional items such as the maple leaf flag and pen holder which will be marketed as international and interprovincial giftware during trade missions and conferences. In this category of products the company has successfully completed a major contract for Canada Dry Bottling Ltd. The contract involved the design, development and manufacture of clocks depicting the company's logo.

In the operational plan provision is given for the continued design and development to increase the line of products manufactured by TEK Woodworks. This will include the development of:

1) Other children's furniture including shelving, dressers, play pen, toy box,...etc. during the first year of operation.
2) Wooden toys and teaching aids during the second year of operation.
3) Standardized Modular Day Care System, currently at a conceptual stage.
4) Promotion giftware for Government and other companies requiring such products.

3.2.2 PRICE

To arrive at an accurate pricing method for PONY-TEK products a cost plus profit margin approach has been used. This shows a close approximation of what cost ought to be for such a production line as planned by TEK Woodworks. These calculations are based on an annual production of 8,000 assorted units as shown in Table 2.

TABLE 2: PRODUCT MIX OF ANNUAL PRODUCTION

PRODUCT TYPE	PERCENTAGE	NO. OF UNITS
Easy chair	52.5	4,200
The Pony Rocker	10.0	800
Piggy Chair	10.0	800
Teddy Chair	10.0	800
Play Table	17.5	1,400
TOTAL NO. OF UNITS	100.0	8,000

The main elements of costs considered are:

1) Direct Material Costs
2) Direct Labour Costs
3) Direct Expences
4) Overhead Costs

Taking into consideration the cost of capital, the inflation rate, and the risk profile of the company, a margin is calculated and the retail prices for the various products are shown in table 3.

TABLE 3: PRODUCT COSTS AND RETAIL PRICES

PRODUCT TYPE	COST	RETAIL PRICE
Easy chair	$ 20.20	$ 32.32
The Pony Rocker	19.32	30.91
Piggy Chair	19.32	30.91
Teddy Chair	19.32	30.91
Play Table	20.07	32.11
Three Piece Set	60.47	96.75

In order to gain market acceptance, a rather conservative pricing method has been used by TEK Woodworks.The suggested retail prices of the company's products are shown in Table 4.

TABLE 4: SUGGESTED RETAIL PRICES

PRODUCT TYPE	SUGGESTED RETAIL PRICE
Easy chair	$ 27.47
The Pony Rocker	29.95
Piggy Chair	29.95
Teddy Chair	29.95
Play Table	33.15
Three Pice Set	83.80

This suggested retail prices are designed to facilitate penetration of the market, as well as being sensitive to the prevailing market prices of similar products. These prices are set with probable change in product mix as shown in Table 2 in the future.

Based on available market information, more than 60% of the products will be sold through retail outlets. In order to offer an attractive price to retailers and ensure a reasonable return on their investment, TEK Woodworks intends to sell to retail outlets 20% below the suggested retail price as shown in Table 4. Trade discounts will also be granted to distributors or retailers for volume purchses.

3.2.3 TECHNOLOGY

The technology used in manufacturing by TEK Woodworks is laser technology. This application of the technology, dedicated to wood processing, is the first of its kind in North America and probably the world.

Compared to the revolutionary changes that took place in the manufacturing sector as a whole during the past few decades,the traditional furniture industry has been rather reluctant to change. The successful application of laser technology in this industry will have a major impact on this sector.

Lasers, when interlaced with a micro computer, can virtually cut millions of products to exacting shapes. Further more, the speed and flexibility of operation allow maintenance of low inventory and also accomodate custom operations to be performed without delay or extra cost. By far, the most important benefit of using this technolgy is the higher utilization of raw material which is on average can be 30% more than conventional processes depending on the intricasy of designs.

In the past, attempts to use laser cutting in the woodworking industry was concentrated in sawmilling. These attempts failed due to the undesirable burn that is caused by the laser beam. The success of TEK Woodworks lies in the minimization of this burn and its integration as a decorative element of the design for its PONY-TEK products.

Although laser technology is relatively new, it has undergone massive changes and improvements in the past few years. Currently there are systems which have been tested in service for several years.

3.2.4 STRENGTHS AND WEAKNESSES

Feedback from the market survey indicates an acceptance of PONY-TEK products in terms of uniqueness, durability, appearance and to some extent price.

The use of laser technology ensures, among other things, a higher utilization of raw material resulting in lower production costs as compared to traditional craftwork and conventional manufacturing. This advantage will ultimately lead to a decease in the price of the products to the consumer, creating an even more competitive product.

MDF, which is the main raw material used is often confused for chip board, which is weaker in strength and poorer in surface qualities than MDF. While the weight of the product is perceived as being a reflection of the durability by some consumers, others think it is a limiting factor since children want to lift and move the product anywhere they want.

The company intends to educate consumers on the virtues of MDF over chip board, and also use paint to enhance the appearance and seek design solutions to reduce weight as may be neccessary.

3.3 THE TARGET MARKET SEGMENT

Based on the preliminary market survey conducted by the company the potential sales of PONY-TEK products are classified into the following three broad groupings. 1) Consumers, 2) Institutions, and 3) Exports. Each of these markets are assessed and characterized in a detailed market analysis.

3.3.1 CONSUMERS

It is estimated that each family unit spends, on average, about $ 10.00 on children's furniture. Thus, it is estimated that $ 88.5 million were spent on children's furniture in Canada based on 1986 census data. During the same period $7.3 million were spent on the same types of products in Alberta. See Appendix 3. This market is expected to grow at the rate of 2% over the next few years, consistent with increase in population and disposable income. It is anticipated that expenditure on children's furniture by the end of 1988 in Canada will be over $ 92 million. This amount is likely to increase as the family units' diposable income increases as a result of the child tax credit initiated by the Federal Government.

The factors that limit the growth of this identified market are: 1) A population decrease as a result of a decline in fertility rate; and 2) A decrease in disposable income resulting from the anticipated increase in Federal income and sales taxes.

Consumers buy their children various types of furniture for numerous reasons. People buy these products for baby showers, birthday gifts, and gifts for different occasions. Beyond the service values, sentimental values are attached to certain classic toys and furniture purchased by parents and grandparents. In identifying TEK Woodworks' target market segments, a scenario was developed to fit the description of this potential market. These were classfied as: 1) Family units earning $ 20,000 or more per annum; and 2) Family units with children under 5 years of age.

The Primary Target Market Segment(PTMS) is composed of families with children under five years of age. These families spent $13.9 million in Canada of which $ 1.5 million was spent in Alberta. Using income as an indicator of the market sufficiency, family units with an annual income of $ 20,000 or more spent $ 64.9 million in Canada in 1986. $5.9 million was spent by this same group of consumers in Alberta during the same period.

There is a deficiency in the supply of medium priced children's furniture between those offering high prices for high quality products like IKEA and Fisher Price and those offering low quality products at low prices such as Sheltered Workshop. This automatically eliminates those who either do not want or cannot pay the high prices or feel that the low quality at low prices is unacceptable. TEK Woodworks has the capability of filling this gap by providing quality products at reasonable prices.

3.3.2 DAY CARE CENTRES

Besides the consumer market, day care centres provide a large potential demand for children's furniture in Alberta and the rest of Canada. Most day care centres surveyed in the Edmonton area use either metal framed plastic products, or the cheaper wooden furniture mainly supplied by Sheltred Workshop, an Edmonton based children's furniture manufacturing firm. Both types of furniture have a rather short service life and are poor in appearance.

Some day care centres have expressed interest in PONY-TEK products should the need arise. They have concerns with the lack of stacking ability of the chairs and to some extent the price.

There were 216,700 day care centre spaces in Canada and 37,500 in Alberta in 1987. With an average expenditure of $ 31.50 on tables and chairs required per child space these centres have spent an estimated $ 7 million in Canada. $1.2 million was spent in Alberta during the same period on tables and chairs alone. Forecasts indicate that this market will grow at the rate of 8.1% over the next few years reaching 318,381 day care spaces by 1992. (See Appendix 4).

With increasing pressure from lobby groups and the different levels of government for quality day care service and facilities, this sector is and will continue to be very competitive in terms of quality sevice to its customers.

The competitive situation in the day care industry will become even more intense if the quality day care lobby groups manage to convince the government to adopt a national standard.

In response to the growing demand for quality sevice, operators of day care centres will strive to remain competitive by improving their service and creating images to reflect the quality services that they provide. Among other things,this is reflected by the quality furniture and fixtures they have. PONY-TEK products should be able to meet their quality requirements both in terms of appearance and durability which are very important in institutional furniture.

3.3.3 INSTITUTIONAL CUSTOMERS

This market is comprised of children's hospitals, medical centres, corporations and government departments requiring promotional products.

In the preliminary market survey it was recognized that furniture sales to children's hospitals and medical centres is rather sporadic being linked to the construction of such facilities.

Although large revenues could be realized with each sale it requires a strong establishment and visible presence in the market place to win one such contract. It would be advisable for a newly established manufacturer such as TEK Woodworks to establish itself in the consumer market before attempting to pursue this potential.

3.3.4 INTERNATIONAL MARKET

Canadian household furniture in 1986 accounted for shipments worth $ 1.6 billion. Out of this $ 1.6 billion, wooden furniture accounted for 50% ($ 800 million), upholstered furniture 35% ($ 560 million), and metal and plastic furniture 15% ($ 240 million).

There are no data on wooden children's furniture related to export markets, therfore household furniture has been used as a surrogate in this analysis. Canadian made household furniture is not generally cost competitive with the United States and other foreign manufacturers. Producers in Europe and Asia have a competitive advantage in products of the low to medium price ranges.

Despite these shortcomings, Canadian household furniture manufacturers have made great strides in penetrating the United States market, by focusing on high priced products directed at specialized markets. In 1986, Canadian furniture exports to the United States amounted to $ 215 million.

3.3.4.1 The U.S.A. Market

The United States market represents nine times the potential that exists in Canada. Until recently Canada had been the leading exporter of wooden furniture to the United States. Although furniture exports to this country increased during the past few years, Taiwan has replaced Canada as the leading exporter to the U.S. This was mainly due to the high labour costs in Canada compared to that of Taiwan and the United States, and also the 15% tariff that existed on most imports of household furniture into the U.S.

The Free Trade Agreement(FTA) is expected to remove the tariff on wooden furniture over the next five years. Although the FTA is expected to remove some of the trade barriers that exist now, the United States market is highly competitive and complex.

It is advisable that attempting to penetrate this market be viewed with caution, if need be, selling through an established intermediary may be the most expedient strategy.

Ideally, one should consider pre-selling to a large retailer who can provide orders of a magnitude and thereby eliminate the risk all together. Retailers such as Wal-Mart and K-Mart with 1,500 and 2,600 stores respectively could provide orders of this magnitude. They would, however, require a well planned and executed approach as their buyers are experienced, hard-nosed and represent a market that is not always easy to access.

3.3.4.2 The Japanese Market

The traditionally overprotectionist Japanese market is slowly opening up. During the preliminary market survey TEK Woodworks established important contacts in this market including SEIYU Ltd., a leading department store chain.

This company has its oun import department and a meeting was held with their import merchandizing managers during a buying mission in Edmonton. While they expressed satisfaction with PONY-TEK products, their concern at that time was that the prices were too high. It takes a long time to build up trust beyond business transctions in this market in which quality and delivery times are of paramount importance.To the best interest of the company it is recomended that TEK Woodworks continue to cultivate this market by maintaining the already established contact with SEIYU Ltd.

3.4 ANALYSIS OF THE COMPETITION

The furniture industry in the province of Alberta is characterized by a large number of small firms the largest of which controls an insignificant percentage of the total market. Most of these firms have little or no production line furniture manufacturing capabilities. This is also generaly true for the rest of Canada

3.4.1 STRENGTH AND LOCATION OF THE COMPETITION

According to Industry Profile of Household Furniture the number of establishments with in the industry grew from 949 in 1984 to 994 in 1985, an increase if 4.7%. If this trend continued over the past few years then there are a large number of competitors in Canada. Most of these firms have the infrastructure and the money to produce children's furniture if they should consider it to be a profitable venture. 80% of the firms are located in Ontario and Quebec and only 11% in Western Canada. Of the 11% only seven are registered as manufacturers of children's furniture in Alberta. (Appendix 6)

In the market for children's furniture no single manufacturer controls any significant percentage of the market. Most production line furniture is imported mainly from the United States and Taiwan. Sweden, the United States and Taiwan are the leading exporters of children's furniture to Canada.

The existing structure of the industry in general, coupled with the relatively low entry costs in terms of plant and equipment, permits the entry of a new firm without the threat of being squeezed out by larger established firms.

3.4.2 PRODUCT QUALITY

An assessment of some similar products carried by such stores as Toys"R" Us, Play and Learn, and Toys and Wheels in the Edmonton area indicates that PONY-TEK products can probably compete favorably with other products based on quality, strength and durability. Further more, consumer reaction towards our products has been posetive. Besides the unique designs, the high quality of PONY-TEK products is due to the perceived durability of MDF as reflected by the weight of the products, and also due to the smooth characteristic burn mark that is left by the laser beam during processing.

Occasional negative comments have been made about the material(MDF) by consumers who confused it with chipboard. Others feel that the products are too heavy for use by children.

Use of paints instead of the current clear lacquer finish as well as a consumer directed education program about MDF could go a long way in changing the above mentioned negative comments about the products. However, painting could add to the weight of a product already considered too heavy. Either a careful balance has to be struck or conciderable effort put into product presentation at the retail level.

3.4.3 COMPARATIVE PRICES

PONY-TEK products compare favourably, in price, with other similar products in the market. This is due to the flexibility and the speed of operation of the technology used by TEK Woodworks and also the savings in row material consumption. Table 5 shows the prices offered by the competion for a three piece set of similar or somewhat inferior quality furniture than the PONY-TEK three piece set.

TABLE 5: COMPARATIVE PRICES FOR A THREE PIECE SET

MANUFACTURER or TRADE NAME	RETAIL PRICE	MATERIAL USED
1) Torpedo	$ 90.00	Wooden frame with MDF tops, painted.
2) Preston	$ 80.00	MDF.
3) Poitras J.B.	$ 70.00	MDF.
4) Wood Master	$110.00	Veneered chipboard, with four chairs.
5) Canada Art	$ 60.00	Solid Pine.
6) Mattanor Gendron	$100.00	Laminated chipboard with metal legs
7) Fisher Price	$100.00	Formica table top with plastic frame and metal legs. Metal legged chairs with plastic tops.
8) Little Tike	$ 95.00	Plastic.
9) IKEA	$ 95.00	Wooden frames with plastic painted chipboard.
10) TEK Woodworks	$ 83.80	MDF.

3.5 DISTRIBUTION CHANNELS AND CHARACTERISTICS

In order to maximize the objectives of the marketing functions, TEK Woodworks will have to determine the optimum selection of retail outlets as measured against their characteristics to increase the profitability of its operations.

3.5.1 RETAIL OUTLETS

Speciality Stores

This type of outlet tends to specialize in a complete assortment of one or more types of goods such as children's toys,and/or children's clothing, and/or children's furniture. Most of these stores are run by independent operators and do not hold inventories of any significance.

Even some of the largest operators in this category, like Play and Learn with branches in all major western Canadian cities, buy their high valued merchandize after they have received orders from their customers. If they have enough storage space they will hold inventories of products on consignment basis.

However, these establishments operate very close to consumers and provide resonable exposure. It is suggested that in selling to speciality stores, TEK Woodworks should use the services of dealers unless the company decides to build up its oun field sales team.

Department Stores

Department stores handle a variety of products from a variety of sources. It is a combination of many departments under the management of a single owner. Although this category of retailers has limited floor space designated for a particular product group in each of their outlets, each one operates a minimum of one such outlet in almost every urban centre in Canada. Therefore, a sale to one such establishment could result in substantial revenues.

Despite the attractive volumes of orders that they place at one time, department stores are known to demand high discounts and also their payment terms extend up to 120 days and in some cases involve consignment. In selling to department stores, it is recommended that TEK Woodworks negotiate prices and payment terms at individual points of sale.

Furniture Distributors/Retailers

These are outlets that handle a variety of furniture products. Furniture distributors accross Canada perform the functions of buying, storing, and selling as well as offering convenience and product promotion. This category secures goods that are desired by consumers in the market to which they cater.

This sector tends to specialize and TEK Woodworks should sell to distributors who are suited to dealing with the consumer for whom the product is meant.

The distributor usually stores sufficient amounts of merchandise to serve the customers promptly, while at the same time they must achieve a sufficient number of stock turnovers to minimize expenses for caring inventory. Distributors usually strike a balance between turning over stock too fast and being "out of stock" thereby losing sales, and turning over too slowly, and consequently increasing expenses and risk.

Direct Sales

This involves selling direct to the consuming public or the end user by the manufacturer without the services of an intermediary. Many manufacturers achieve this method of distribution in a variety of ways, such as through mail order catalogues, their own wholesale/retail outlets, sales offices and showrooms, etc.

This method of distribution is designed to lower costs to the consumer, achieve a controlled and aggressive promotion of products, and render better service to the customer. Lowering of costs occurs because of increased sales, efficiencies attained from vertical integration, and to a limited extent are due to the elimination of "middlemen".

3.5.2 WHOLESALE

Furniture dealers/brokers in Canada take title to the goods that they carry. Manufacturers must generally move their products through the wholesale stage by means of promotional advertizing, thereby creating demand at the retail level. This will attract dealers to carry the product. This category of distributors have large warehouses in which they carry necessry inventory and extend credit to retail outlets.

The advantage that this category has over the others, is that the furniture dealers pay the manufacturer promtly. The manufacturer therefore would obtain funds that he himself would have to finance if he were to fill the retail orders at the slow rate encountered at the retail level. Due to this vital role that wholesalers play, they usually expect high accounts to compensate them for their service.

For an operation such as TEK Woodworks, where increased profitability is achieved through increased sales volume, the use of furniture dealers/brokers in the distribution of its products is considered not only desirable but essential.

3.5.3 OTHER

A relatively more recent development in the distribution of children's furniture and toys is the emergence of specialized distribution outlets catering to the day care industry. These distributors handle a whole range of products required by day care centres and educators including books educational toys, furniture and other teaching aids. Day care centres also buy direct from manufacturers. A list of distributors of toys and equipment is given in Appendix 7.

3.5.4 PHYSICAL DISTRIBUTION

Physical distribution involves the actual movement of the products from the manufacturing plant to the end user. The functions involved in this process are transportation and storage.

According to Dun and Bradstreet(1985), transportation costs constitute between 10 to 50% of total marketing costs. It is therefore prudent for TEK Woodworks to offer good opportunities for cost reduction. One of the biggest advantages the company has in this respect is that its products are designed for shipment in a Ready-to-Assemble(RTA) form. This way packaging means that more of its products can be transported in a given space.

For the purpose of regulation and administration, three modes of distribution are recommended for use by the manufacturer. These are common careeiers, contract carriers, and private transportation.

Common carriers are highly regulated. They regularly publish and make available to the public all their rates and services, and also accept responsibility for the goods that they carry. Examples are Greyhound Courier, Canpar, Federal Express, etc. Contract carriers make themselves available on a selective basis. They usually charge different rates to different customers for the same service. Rates are usually determined through negotiation. Private transportation refers to firms transporting their own goods without regulation.

TEK Woodworks may use a combination of the above transportation systems for physical distribution depending on the circumstances. The particular mode of transportation used at any time however, should be selected according to the following considerations:

1) Speed of delivery; permitting better customer service.
2) Cost of the overall marketing and distribution effort.
3) Capacity of TEK woodworks and transport company, long term cost implications and limitations on volume.

For the purpose of this market analysis, storage is associated with warehousing, materials handling performed in warehouses, and products in transit before sale is made to consumers. Dun and Bradstreet(1985), records report the cost of carrying inventory at 17% of the average value of inventory. In reality, it may vary between 10 and 40%, and TEK Woodworks has an advantage in this respect as its products are shipped in the flat RTA form.

It is recommended that in order to ensure satisfaction and a competitive edge, TEK Woodworks should monitor customer reaction follwing sales to confirm that distributors sell the products to the consumers in the best condition and under standards set by the company.

3.6 STRATEGY FOR MARKET PENETRATION

Marketing efforts completed by the company todate included the development of a marketing brochure, participation at two recognized trade shows and visits and phone calls to various children's speciality stores and day care centres in the Edmonton area. By participating at the Calgary HOMEXPO'88 and the Edmonton Klondike Days Exhibition of 1988 PONY-TEK products have been exposed to over 6,000 consumers. The purpose of participating at these trade shows was to observe consumer reaction towards PONY-TEK products. The response was excellent and TEK Woodworks has been able to build up a potential customer list of 3,000 from these shows.

Also initial contact with potential distributors for the Calgary area has been established. Two speciality stores- Play and Learn and You're My Baby are currently handling PONY-TEK products on a trial basis. During this market study the company has entered into serious negotiations with a potential distributor for the city of Calgary and surrounding areas.

In an attempt to explore and cultivate the Japanese market the firm has established several contacts including SEIYU Ltd. of Japan, which is the largest department store in that country.

The strategy for penetrating the market should be developed from the overall corporate objectives. The strategy to be adopted in marketing the product throughout Canada should be based on the demographic data for the Edmonton and Calgary regions, with specific emphasi on population and income. Also, the marketing strategy should incorporate intelligent positioning in the market place so as to make customers' interest and preference congruent to the company's marketing efforts.

The overall marketing strategy should be developed to address the short, medium and long range plans of the firm.

3.6.1 SHORT TERM

The short term (less than one year) strategy is to focus on gaining product recognitiion and acceptance in the Edmonton and Calgary regions and in major urban centres with over 10,000 residents within the province of Alberta.

Factors concidered in the short term strategy are:

a) The location of the plant in Edmonton.
b) Absence of any keen competition within the province of Alberta.
c) The Alberta market represents over 50% of the total market in the Prairie Provinces.
d) Cost effectiveness in advertizing and distrbuting within the target market segment.

3.6.2 MEDIUM TERM

In the medium term (more than one year but less than three years of successful business operation) attention will be directed to expanding the market base to incorporate, initially the rest of the Prairie Provinces and then Eastern Canada.

About 80% of household furniture manufacturers are located in Ontario and Quebec. However, the uniqueness of our products is likely to gain acceptance in the eastern Canadian markets which contains about 60% of the total population.

3.6.3 LONG TERM

The long term strategy (more than three years) is to expand into the international market primarily the United States and Japan. After three years of successful operation, TEK Woodworks will have developed effective and effitient product development and design, as well as expertise in order to market overseas.

It is advisable that the initial approach towards the marketing of PONY-TEK products be composed of a "push" (reseller oriented) and a "pull" (customer oriented) strategy. This approach will definitely facilitate entry to the market place and attract distributors while obtaining badly needed revenues at this stage. Once the company has established itself in the market place and a comfortable number of distributors/resellers is secured a different approach may be adopted.

3.7 ADVERTIZING AND PROMOTION METHODS

3.7.1 ADVERTIZING

One of the goals of advertizing PONY-TEK products will be to stress the characteristics that distinguishes these products from their competitors, thereby focusing on drawing the attention of the target consumer to these products.

Some of the positive characteristics of the product line are quality, uniqueness, durability, and possibly price. Presently, TEK Woodworks has a brochure containing information about the range of products manufactured. There is a need to change the format of the current brochure to include a consumer education section stressing the distinction between MDF, which is the company's main raw material, and chipboard. In the long run, the choice of advertizing media will include catalogues, flyers, newspapers(national, local,and community), radio and television.

The decisions regarding the specific type of advertizing to be used will depend on cost/benefit analysis and the effectiveness that it would have on the target market.

3.7.2 PROMOTION

The promotional method for a new firm like TEK Woodworks should be consistent with the marketing strategy.

It is suggested that, as a technique of promoting the product, the manufacturer should solicit the cooperation of retail and wholesale outlets in Edmonton to display its products in their showrooms. Similar cooperation from day care operators may prove to be important. In addition, samples could be given to these shops for display purposes and owners of these shops could be given discounts in return for allowing display samples on their floors. It would be a good idea to provide some technical training on the differences between TEK Woodworks' products and other similar products on the market.

Further to this, a free draw involving these products could be initiated by the manufacturer, and before entering a draw, a potential customer may be asked to answer some questions aimed at specific customer preferences with regard to the products.

In the long term, participation in trade shows both locally or nationaly will assist the manufacturer in further exposing these products to the consuming public and also distibutors. Attendance could be "piggy backed" with other companies displaying products and in this way reduce the cost of single attendance at expensive trade shows.

3.7.3 PACKAGING

Packaging should be viewed as part of the promotional effort, because the way in which a product is presented to customers will infuence their buying decisions. As described in Section 2.1, the packaging method TEK Woodworks intends to use will be bleached cardboard boxes, having the company logo (PONY-TEK and design). The box labels are so designed to include all products manufactured by the company along with the actual product that is contained in each box.

The objective of this technique is to create awareness and establish or create an image while at the same time ensuring the undamaged delivery of merchndise to customers. It not only reduces the cost of printing and shipping costs but makes the product easier to transport, handle, store and display.

3.8 THE BUSINESS PLAN

Due to its confidential nature we have included only the summary of the business plan. The complete business plan was submitted in a separate report.

3.8.1 SUMMARY

TEK Woodworks is a company proposed to manufacture children's furniture, toys, teaching aids and other wooden promotional products using state of the art laser technology.

Prior to this proposal the firm has been operating as a sole proprietorship since March 1987. During the past two years technological and economic feasibility studies have been conducted and a line of children's furniture and promotion products has been developed and test marketed.

The potential market for children's furniture over the next five years is estimated at $ 100 million and TEK Woodworks conservatively expects to sell more than $0.7 million and make a profit of $ 100,000 by the end of the third year. The company will be profitable and self sustaining by the end of the first year of operation.

The major target markets for the products are in Canada and there are good export opportunities. A detailed market survey and analysis has revealed that the current products are unique and can compete very well with what is currently available in the market place in terms of quality, durability, and price.

TEK Woodworks requires $ 359,540 to purchase equipment, set up manufacturing, carry an inventory, provide adequate working capital and implement an aggressive sales and marketing program.

Production can begin within a month after financing has been arranged and the first 200 assorted units could be available for the market within one month of financing.

TEK woodworks is prepared to offer equity in the company in return for investment. The company will also concider other arrangements to obtain the necessary finances.

4.0 BENEFITS TO THE PROVINCE OF ALBERTA

It has been mentioned in previous reports that, despite its economic benefits and advantages the secondary forest products manufacturing industry in the province has been slow in its development. Among other things, one of the reasons often mentioned as the culprit for this has been the perceived small size of the provincial market and its distance from larger markets. In our opinion lack of knowledge of the available resources and their technical suitabilities for secondary processing by the private sector appears to have played an important role. From a provincial perspective, it would be cheaper to ship finished products rather than bulky basic raw materials.

As a result the industry is represented by a large number of small firms with little or no production line capabilities. These firms are, in most cases, custom manufacturers often faced with working capital shortages and very limited opportunity for research and product development.

The provincial market for household furniture is served by inexpensive imports and this trend appears to be growing in concert with global conditions as we head towards the 21st century. Large international manufacturers equiped with modern production techniques are emerging in different sectors, and the furniture industry is no exception.

The development of such firms as TEK Woodworks, using technologies of the future and backed by adequate working capital, would not only allow it to compete, but would also have a significant impact on the status of the secondary forest products industry in the province. Although it may be difficult to quantify this impact, it is probably as equally important as the contribution to resource utilization, diversification, job creation, import replacement and export revenues.

4.1 RESOURCE UTILIZATION

The primary raw material input for PONY-TEK products is Alberta MDF. It is estimated that TEK Woodworks would process about 5000 MDF panels (3/4" basis) in its first year of operation, doubling this amount by the end of the third year.

In terms of monetary value, consumption in the third year amounts to about $ 150,000. Further more MDF manufacturers will benefit new product application and subsequent market opportunities.

4.2 JOB CREATION

Since TEK Woodworks plans to use the laser system at the Alberta Laser Institute until its own system is installed and fully operational, only four to six permanent positions will be created at start up. A total of twenty jobs will be created by the time the company is fully operational.

As the development of the proposed venture will be the first of its kind, the indirect impact that it will have in terms of both the processing technology (laser) and the raw material(MDF) it uses, will be significant and lead to further jobs.

In the past, TEK Woodworks has been contacted by several entreprenures who want to develop or manufacture a product using this technology. Such indirect benefits, and the spin-offs from the establishment of such a manufacturing plant are, probably, equally important in terms of diversification and modernization of the manufacturing sector in the province.

4.3 IMPORT REPLACEMENT

We estimate that the Alberta market for children's furniture is over $ 7.5 million. Most of this is imported into the province, with very little being soursed from within the province. TEK Woodworks conservatively expects to capture about 6.5% of this market within two years of successful operation. Although this may be a small percentage, it represents a substancial amount of revenue. This goal has a compound effect when you consider the additional amount of money that would be retained within the province.

4.4 EXPORT POTENTIAL

Although it difficult to quantify the amount at this stage, PONY-TEK products exhibit very good potential to be competitive in the export market place. The RTA design of these products allows them to be shipped for long distances at a lower unit price thereby maintaining their competitiveness at export destinations.

In its prior marketing efforts TEK Woodworks has established contacts in the Japanese market. While the export potential for the company's products to Japan and the U.S.A. has been recogized in the market study, the marketing strategy calls for the penetration of the provincial, and the national markets during the first three years of operation.

5.0 CONCLUSION AND RECOMMENDATIONS

There is a healthy growth market for wooden furniture, provincially, nationally and internationally. It must be emphasised that, since there are no data specifically related to children's furniture, figures were derived by statistical extrapolations from primary and secondary sources, to arrive at values related to children's furniture. Nevertheless, the growth being experienced in the wooden furniture industry leaves us with no doubt that there exists a market for wooden children's furniture.

The primary target market in Canada for the products TEK Woodworks intends to manufacture on a large scale is twofold. Family units in Canada earning $ 20,000 or more per annum and with children under five years of age are one part of the market. According to the Government of Canada Industry Profile on Househol Furniture, this target market is anticipated to grow on an annual average of 2 %, consistent with increase in family units. The second primary target market is day care centres. There were 216,685 day care spaces in Canada in 1987, and this number is likely to increase at an annual rate of 8.1 %.

A rather conservative estimate was used in arriving at values of the target markets because these figures do not include other potential markets or customers such as other family members who may buy these products as gifts.

Given demograpgics it is not surprising most of the major buying influences and chain headquarters for children's furniture are located in eastern Canada, with a very few scattered elsewhere. For this reason it will be necessary for TEK Woodworks to determine the type of outlets which offer its products the best opportunities in terms of the amount of money and effort required to use such outlets. The choice of outlets into Japan and the U.S.A. is a mater of preference for the manufacturer. It should be remembered, however, that 75 % of the United States population lives east of the Rockies, although North Eastern United States may be a logical starting point in terms of proximity.

It should be emphasized that the information contained in this market analysis is time sensitve, and will lose its value with time. As much as possible, figures used in the analysis are objective and verifiable, and will be deemed so provided the underlying assumptions in arriving at these figures do not change adversely in the future or are taken into consideration when adjustments are made.

No consideration was given in this market analysis to the infrastructural requirements for the manufacturing plant, which TEK Woodworks is trying to put in place at the moment. In its best application, this analysis will form the basis of a marketing plan that is only part of the business plan, which is critical to the proper development of the business opportunity offered by the product. The business plan, which covers all the requirements and the proposed plan of action for the development of the proposed venture, is submited to the government in a separate confidential report.

Against the background of the market analysis carried out in this study, there exists a potential market for wooden children's furniture to be manufactured by TEK Woodworks. There can be little doubt that the market is real and the products have a good chance of success. If the company follows through with the opportunities indicated in this study, then government agencies, financial institutions, and other interested parties can feel assured about the viability of this venture and do their part in supporting its successful implementation.

APPENDIX 1: MARKETING BROCHURE

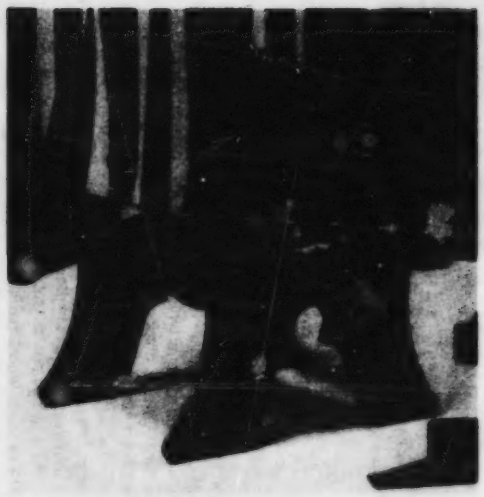
...INTRODUCING...
...THE NEWEST...
...THE HOTEST...LATEST...
LASER CRAZE

OYE

CHILDREN'S FURNITURE
BY
TEK WOODWORKS

THE PONY-TEK THREE PIECE SET

Classic Designs With A Touch Of The Future - Safe, Sturdy And Colorful



THE PONY-TEK EASY CHAIR

Space Age Technology brought you **laser tag, laser jets, laser maze** and now ... (beep, beep, beep) a new technological laser breakthrough - futuristic **PONY-TEK** furniture for children.

For the first time in Canada, and possibly the universe, moms and dads can enjoy substantial down-to-earth savings in **LASER CUT** children's furniture by **TEK WOODWORKS.**

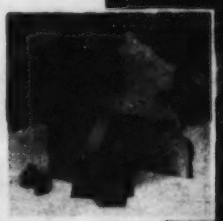
No need to compromise your aesthetics and service requirments because of price.

THE PONY ROCKER (two pony cut-outs included)

PIGGY CHAIR

Youngsters learn by playing and personal kids' corners come alive with these functional developmental pieces that will last from **toddler** to **pre-schooler** and **kindergarten** stages.

LET IMAGINATION TAKE A RIDE



Piggy and **Teddy** chairs come finished as shown in the pictures. Should you want to give them more color as shown in the windows, they can be painted on using any safe, water resistant marker.

TEDDY CHAIR

PRODUCT SPECIFICATION

DIMENSIONS

51 (20)	76 (30)	40 (16)	13x53x79 (5x21x31)	14.1 (31)
25 (10)	30 (12)	20 (8)	8x41x46 (3x16x18)	3.2 (7)
25 (10)	30 (12)	23 (9)	8x51x58 (3x20x23)	3.6 (8)
25 (10)	30 (12)	20 (8)	8x41x53 (3x16x21)	4.5 (10)
25 (10)	30 (12)	20 (8)	8x41x53 (3x16x21)	4.5 (10)

* container dimensions and weight are for the 3 piece set (ie. 2 chairs and 1 table)

MATERIAL: All products are made from 19 mm (3/4") or 16 mm (5/8") Medium Density Fibreboard (MDF)

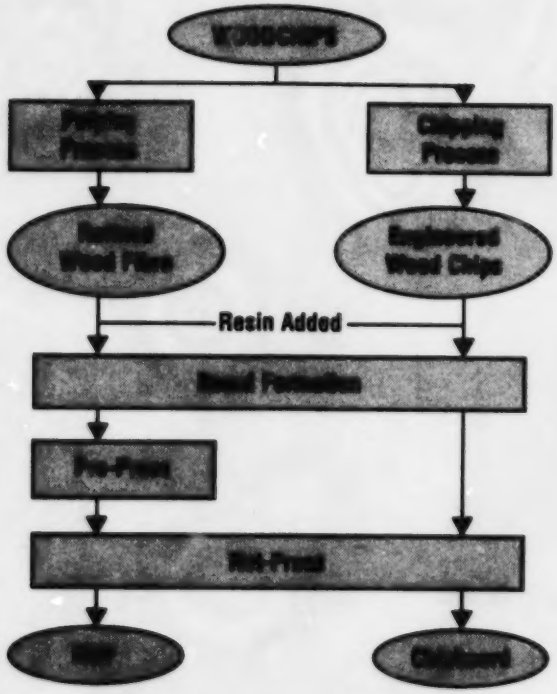
FINISH: Wood laquer. The characteristic black edges on PONY-TEK products are from the natural burn of the laser beam.

PACKAGING: Packaged in a ready-to-assemble form in corrugated cardboard boxes. Assembly instructions and the necessary hardware are included in the package.

distributed by:

ABOUT MEDIUM DENSITY FIBREBOARD (MDF)

Medium Density Fibreboard (MDF) is a wood fibre product made by compressing **woodfibres** with resin. Unlike chipboard, which is made by compressing **woodchips (particles)** with resin, MDF is much denser and more uniform throughout the board thickness.



SCHEMATIC REPRESENTATION OF HOW MDF AND CHIPBOARD ARE MADE

As shown in the diagram MDF is made from refined wood fibres obtained from a pulping process. The result of mixing these fibres with resin and compressing them in a hot-press is a dense wood material which is free from air or resin pockets as may be observed in chipboard. This makes MDF stronger than chipboard with a much smoother surface.

The surface of MDF is even stronger than some solid woods and can withstand much higher indentation forces. It does not leave dangerous splinters like solid wood when subjected to breaking forces due to use or abuse. These charactaristic make MDF an ideal wood material for making children's furniture.

INVITATION FOR COMMENTS

In recognition of the dependance of our growth on your satisfaction, we hereby invite you to send us your comments about how satisfied you are with our products in respect to quality, appearance, price, uniqueness, sturdiness, etc. We have taken all considerations to make sure that our customers are completely satisfied with our products. However, since the products offered here are new, we believe your comments are the only way for us to guarantee your satisfaction.

TEK WOODWORKS is an Edmonton based company started by a Wood Scientist with a deliberate intention of incorporating **Laser Technology** in furniture manufacturing as a way of increasing operating efficiencies and raw material utilization to lower costs of production.

After two years of technical and economic feasibility studies and design development since March 1987, we are proud to offer you with **our first ever laser-cut children's furniture anywhere in the world.** Through continued design and development using the latest in laser technology, we are expanding our product line to include other children's furniture, toys and teaching aids.

In our efforts to provide you with quality products incorporating creative ideas at reasonable prices, your input will be given the utmost consideration. We welcome any written comments, suggestions, critisism or appreciation you may have about our current products or future developments.

Please send your comments to:

General Manager
c/o TEK WOODWORKS
9994 - 28th Avenue
Edmonton, Alberta, Canada T6N 1A2
Tel.: (403)-462-1621

APPENDIX 2: FAMILY EXPENDITURE ON HOUSEHOLD FURNITURE IN CANADA

	CANADA		ALBERTA	
	EXPENDITURE PER FAMILY	TOTAL EXPENDITURE (Million)	EXPENDITURE PER FAMILY	TOTAL EXPENDITURE (Million)
All Furniture	389	3,442	393	318
Upholstered	132	1,168	141	144
Wooden	189	1,673	191	155
Nursery	10	88	9	7
Other(metal, etc.)	68	602	61	49

SOURCE: Stat. Canada Table 04891: 1986

APPENDIX 3: FAMILY EXPENDITURE ON CHILDREN'S FURNITURE IN CANADA

	NEW FOUNDLAND	PEI	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC	ONTARIO	MANITOBA	SASK.	ALBERTA	BRITISH COLUMBIA	TOTAL	SOURCE OF DATA
1.Number of families	160,480	46,500	294,410	220,420	2,354,180	3,197,060	365,160	344,950	809,530	1,056,670	8,849,360	Statistics Canada Table 04891
2.Percentage of families with children 0-5 yrs	20.3	11.3	17.5	15.8	15.2	15.5	16.6	16.5	18.7	13.9	16.1%	Statistics Canada Table 04891
3.Number of families with children 0-5 yrs	32,577	5,254	51,521	34,826	357,835	495,544	60,616	56,916	151,382	146,877	1,393,348	Extrapolated
4.Percentage of families earning above $20,000 p.a.	64.5%	71.3%	70.7%	72.2%	75.7%	83.5%	74.0%	70.9%	80.9%	77.6%	73.3%	Cat. Number 13-207 Statistics Canada
5.Number of families earning above $20,000 p.a.	103,510	33,155	208,148	159,143	1,782,114	2,669,545	270,218	244,570	654,910	819,976	6,486,581	Extrapolated
6.Percentage of families with both parents working	12.5%	15.3%	13.8%	12.5%	14.7%	21.3%	16.5%	14.6%	18.5%	10.8%	16.9%	
7.Number of families with both parents working	20,060	7,115	40,629	27,553	346,064	680,974	60,251	50,363	149,763	114,120	1,495,542	Extrapolated
8.Avg. expenditure on children's furniture	10	10	8	6	13	10	4	9	9	7	10.	Statistics Canada Table 04891
9.Total expenditure of families on children's furniture	1,604,800	465,000	2,355,280	1,322,520	30,604,340	31,970,600	1,460,640	3,104,550	7,285,770	7,396,690	88,493,600	Extrapolated
10.Total expenditure of families with children 0-5 yrs	325,770	52,540	412,168	208,956	4,651,855	4,955,440	242,464	512,244	1,362,438	1,028,139	13,933,480	Extrapolated
11.Total expenditure of families earning above $20,000 p.a.	1,035,096	331,545	1,665,183	954,859	23,167,485	26,695,451	1,080,874	2,201,126	5,894,188	5,739,831	64,865,809	Extrapolated
12.Total expenditure of families with both parents working	200,600	71,145	325,029	165,315	4,498,838	6,809,738	241,006	453,264	1,347,867	798,843	14,955,418	Extrapolated

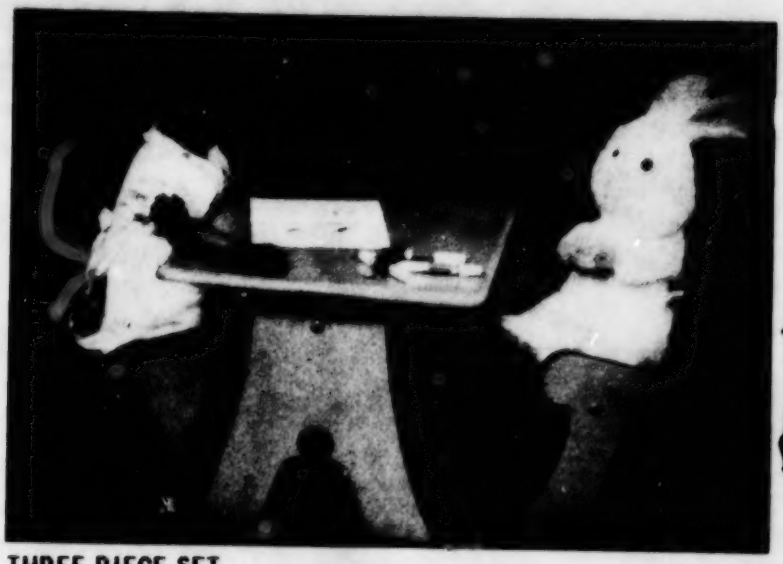
APPENDIX 4: PROJECTED DAY CARE CENTRE SPACES IN CANADA

PROVINCE	1984	1985	1986	1987	AVERAGE CHANGE(%)
Canada	171,454	192,474	198,031	216,685	8.1
Newfoundland	569	804	922	1,318	32.8
P.E.I.	922	1,136	1,165	1,089	19.0
Nova Scotia	4,243	4,463	4,783	5,282	7.6
New Brunswick	2,914	3,035	3,635	4,470	15.6
Quebec	41,101	45,472	49,470	54,565	9.8
Ontario	57,450	71,314	77,251	84,836	14.0
Manitoba	8,981	9,153	8,201	8,771	-1.6
Saskatchewan	5,011	5,463	3,632	3,698	-22.7
Alberta	28,773	32,473	32,635	37,494	9.4
British Columbia	20,943	18,498	15,714	14,499	-11.4
N.W.T.	361	324	305	215	-15.2
Yukon	386	339	314	405	9.3

PROVINCE	1988	1989	1990	1991	1992
Canada	234,020	252,742	272,961	294,798	318,381
Newfoundland	1,750	2,324	3,086	4,098	5,443
P.E.I.	1,295	1,541	1,834	2,182	2,597
Nova Scotia	5,683	6,115	6,579	7,079	7,617
New Brunswick	5,167	5,973	6,905	7,982	9,227
Quebec	59,912	65,783	72,230	79,309	87,081
Ontario	96,713	110,252	125,688	143,284	163,344
Manitoba	8,630	8,491	8,356	8,222	8,090
Saskatchewan	2,858	2,209	1,708	1,320	1,020
Alberta	41,018	44,874	49,092	53,706	58,755
British Columbia	12,846	11,381	10,084	8,934	7,916
N.W.T.	182	154	131	111	94
Yukon	442	483	528	578	631

SOURCE: Canadian World Almanac 1984 and 1985; Status of Day Care in Canada 1986 and 1987

APPENDIX 5: PICTURES OF PONY-TEK PRODUCTS

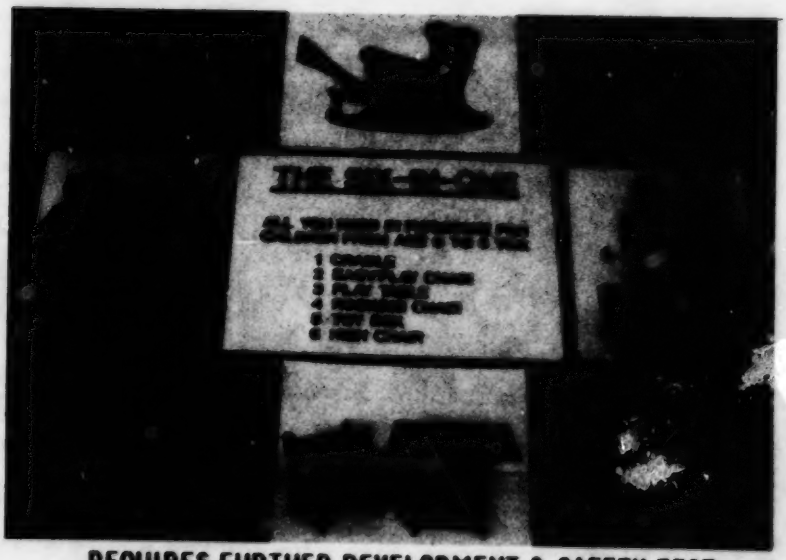


THREE PIECE SET

PIGGY CHAIR

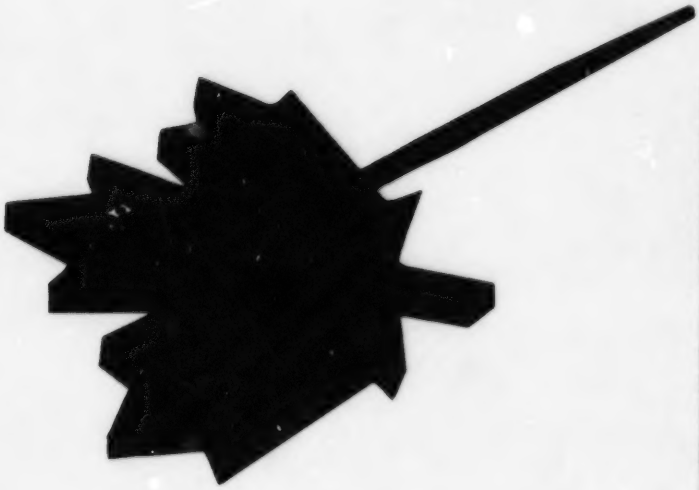
ROCKING CHAIR

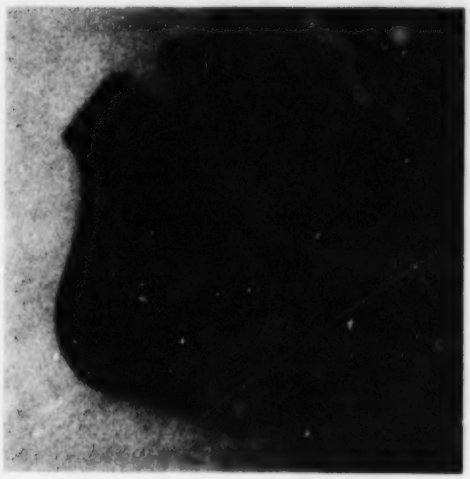
TEDDY CHAIR

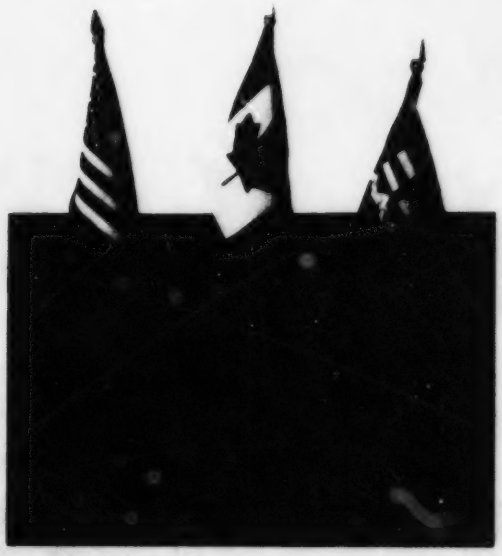


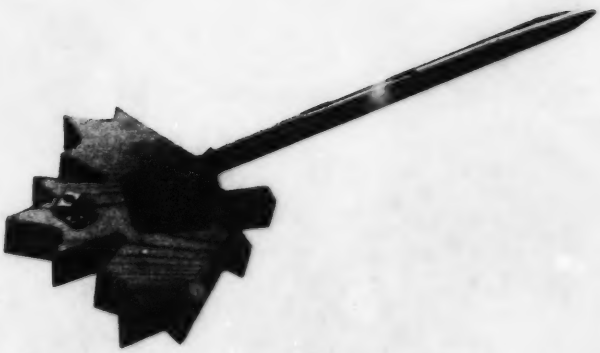
REQUIRES FURTHER DEVELOPMENT & SAFETY TEST

PROMOTION PRODUCTS









APPENDIX 6: CHILDREN'S FURNITURE MANUFACTURERS IN CANADA

Alberta:

Cosmos Enterprises
1 7428 - 49 Avenue
Red Dear, AB
T4P 1M2
Diane Leher, Tel: 343 - 0715

Funk Cedar Ltd.
5521 - 48 Avenue
Wetaskiwin, AB
T9A 0N8
T. Tronsgard, Tel: 352 - 8058

Koopman Manufacturing Ltd.
15907 - 100A Avenue
Edmonton, AB
T5P 0L7
Joe Koopman, Tel: 489 - 0430

Snow Goose Industries
Box 219
Wildwood, AB
T0E 2M0
Dale Zunke, Tel:325 - 2021

Dynasty Wood Products Div. of Beauty Furniture
4315 - 61 Avenue S.E.
Calgery, AB
T2C 1Z6
Dean Sunderji, Tel: 236 - 3220

Horizons Vocational Training Centre
5431 - 36 Avenue
Wetaskiwin, AB
T9A 2R6
Garry Donald, Tel: 352 - 6096

Rehabilitation Society of Southwestern Alberta
1610 - 29 Street North
Lethbridge, AB
T1H 5L3
Jim Kobylansky, Tel: 329 - 3911

Future Foam Furniture Ltd.
17 - 666 Goddard Ave. N.E.
Calgary, AB
T2K 5X3
Tel: 275 - 2430/31

Other Provinces:

Alpha - Vico Canada Inc.
1035 Boul. Magneta est
Farnham, Quebec
J2N 1B9

Archibald Agencies Ltd.
1559 Eastern Drive
Port Coquitlam, B.C.
V3C 2S5

Aro (1984) Inc.
C.P. 430
Daveluyville, Quebec

B & E Furniture
98 Toryork Drive
Weston, Ontario
M9L 1X6

Baronet Inc.
234 rue Baronet
Ste-Marie de Beauce, Quebec
G6E 3B8

Amisco Industries Ltd.
C.P. 250, 33rue 5 eme
L'dslet, Quebec
G0R 2C0

Aristocrat Lamps & Lighting Ltd.
48 Abell Street
Toronto, Ontario
M6J 3H2

Atlantic Sleep Products Ltd., Div. of Springwall
P.O. Box 745
Moncton, N.B.

Babytyme Products Ltd.
4745 Avenue des Industries
Laval, Quebec
H7C 1A1

Carr McLean Ltd.
461 Horner Avenue
Tronto, Ontario
M8W 4X2

Chenard Leo Industries Inc.
237 Route 230 oues, St-Phillippe de Neri
Kamoraska, Quebec
G0L 4A0

Daveluyville Furniture Ltd.
C.P. 68, 110 Ave. 6 eme
Daveluyville, Quebec
G0Z 1C0

Decor Wood Specialties Ltd.
40 Millwick Drive, Unit 10
Weston, Ontario
M9L 1Y3

Dorel Co. Ltd.
4750 Boul. des Grandes Prairies
St. Leonard, Quebec
H1R 1A5

Goldcrest Furniture Ltd.
900 Caledonia Road
Toronto, Ontario
M6B 3Y2

Hamilton & Spill Ltd.
1100 Venables Street
Vancouver, B.C.
V6A 2E2

Henry M.A. Ltd.
1 Head
Dundas, Ontario
L9H 3H5

Ideal (Le Meuble) Ltee.
6 St. Thomas
St. Charles de Bellchasse, Quebec
G0R 2T0

Jeffrey - Craig Ltd.
763 Warde Avenue, Unit 2A
Scarborough, Ontario
M1L 4B7

Kroehler Furniture Co.
552 Ontario Street
Stratford, Ontario
N5A 6T4

Krug Bros. Co. Ltd.
P.O. Box 400
Chesley, Ontario
N0G 1L0

Lepine, Maurice Ltee.
1535 Lepine
Iceliette, Quebec
J6E 4B8

Moriheau Furniture Ltd.
25 Rue de l'Etang, St. Francois
Montmagny 6, Quebec
G0R 2G0

Palliser Furniture Ltd.
55 Vulcan Avenue
Winnipeg, Manitoba
R2G 1B9

Perfect Chrome Furniture Co. Ltd.
34 Nobel Street
Toronto, Ontario
M6K 2C9

Primiani Chesterfield Inc.
10820 Racette
Montreal Nord, Quebec
H1H 5G6

Puritan Products Inc.
5700 Rue Cote de Liesse
Montreal, Quebec
H4T 1B1

R.S. Furniture Inc.
395 Boul. Ste. Croix
Montreal, Quebec
H4N 2R6

Reff Incorporated
1000 Arrcu Rd.
Weston, Ontario
M9M 2Y7

Roxton Furniture Ltd.
22 Foster Square
Waterloo, Ontario
J0E 2N0

Rudson Lighting
68 Broad View Avenue
Toronto, Ontario
M4M 2E6

Scanway Corp.
800 Pierre Caisse
St. Jean sur Richelieu, Quebec
J3B 7Y5

Sheres Industries Inc.
10280 Boul. Ray Lawson
Ville d' Anjou, Quebec
H1J 1L9

Shermag Inc.
C.P. 2390, 2171 Kingouest
Sherbrooke, Ontario
J1J 3Y3

Simmons Limited
6900 Airport Road
Mississauga, Ontario
L4V 1E8

South Shore Industries Ltd.
P.O. Box 190 Ste. Croix
Co. Lotbiniere, Quebec
G0S 2H0

Southern Furniture Ltd.
C.P. 129, 799 Papin
Contrecoeur, Quebec
J0L 1C0

Stork Craft Ltd.
11511 No. 5 Road
Richmond, B.C.
V7A 4E8

Universal Lamp Mfg.
121 Cartwright Avenue
Toronto, Ontario
M6A 1V4

Upper Village Furniture Mfg.
RR1 Bounchy Road
Cornwall, Ontario
K6H 5R5

Victorian Brass Works Ltd.
237 Doney Cresent
Concord, Ontario
L4K 1P6

Viena Furniture refinishing
122 Industrial Road
Richmond Hill, Ontario
L4C 2Y3

APPENDIX 7: DISTRIBUTORS OF TOYS AND DAY CARE EQUIPMENT

The Teachers' Store
12309 118 Avenue
Edmonton, AB
T5L 2K2

Sheltered Workshop Society
7305 99 Street
Edmonton, AB
T6E 3R7

Play and Learn, Parent/Teacher Store
127 Whitemud Crossing
Edmonton, AB
T6N 1B5

R.J. Masters Marketing (Calgary) Ltd.
Northland Village Mall
5111 Northlands Drive
Calgary, AB
T2L 1J8

Tetrad Marketing Sales Limited
2115 27 Avenue N.E. Unit 6A
Calgary, AB
T2E 7E4

South West Imports Limited
2954 Westfourth Avenue
Vancouver, B.C.
B6K 1R4

Robinson and Sons
10746 124 Street
Edmonton, AB
T5M 0H1

Louise Kool & Sons Limited
1147 Bellamy Road
Scarboro, Ontario
M1H 1H6

Banbury Cross Toys
43 Albert Street
Winnipeg, Manitoba
R3B 1G3